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U.S. Department of Commerce Patent  
and Trademark Office

ATTORNEY DOCKET NO.  
S857.312-1

**TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 U.S.C. 371**

U.S. APPLICATION NO. (if known, see 37  
C.F.R. 1.57) **097980231**

INTERNATIONAL APPLICATION NO.

**PCT/FR00/01446**

INT'L FILING DATE

**May 26, 2000**

PRIORITY DATE  
CLAIMED  
**May 27, 1999**

**TITLE OF INVENTION: PROCESS AND SYSTEM FOR PROCESSING, BY MUTUAL AGREEMENT, ORDERS TO BUY AND SELL  
RELATING TO STANDARD AND/OR SPECIFIC FINANCIAL INSTRUMENTS**

**APPLICANT(S) FOR DO/EO/US: Harry GOZLAN**

**Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:**

1. ☒ This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
  - a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☒ has been transmitted by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
  - a. ☒ are transmitted herewith (required only if not transmitted by the International Bureau).
  - b. ☒ have been transmitted by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

**Items 11 to 16 below concern other document(s) or information included:**

11. ☒ An Information Disclosure Statement under 37 C.F.R. 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37 C.F.R. 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.  
☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:
  - a. ☒ International Search Report
  - b. ☒ WO 00/73948 A1 (cover page only)

09/09/01 10:11:11

JC10 Rec'd PCT/PTO 27 NOV 2001

U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.57) <b>09/7980231</b>		INTERNATIONAL APPLICATION NO PCT/FR00/01446		ATTORNEY'S DOCKET NUMBER S857.312-1	
17. [X] The following fees are submitted: BASIC NATIONAL FEE (37 C.F.R. 1.492(a)(1)-(5)):  International preliminary examination and search fees not paid to USPTO and International Search Report not prepared by the EPO or JPO ..... \$ 1040.00 International Search Report prepared by the EPO or JPO ..... \$ 890.00 International search fee paid to the USPTO ..... \$ 740.00 International preliminary examination fee paid to USPTO ..... \$ 710.00 International preliminary examination fee paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) ..... \$ 100.00  ENTER APPROPRIATE BASIC FEE AMOUNT = \$890.00				CALCULATIONS  PTO USE ONLY	
Surcharge of \$130.00 for furnishing the oath or declaration later than _ 20 _ 30 months from the earliest claimed priority date (37 C.F.R. 1.492(e)).				\$0	
Claims	Number Filed	Number Extra	Rate		
Total claims	11 - 20 =	0	0 X \$18.00	\$	
Ind. Claims	2 - 3 =	0	0 X \$80.00	\$	
Multiple dependent claim(s) (if applicable)			+ \$270.00	\$0	
TOTAL OF ABOVE CALCULATIONS =				\$890.00	
- Reduction by 1/2 for filing by small entity, if applicable. Small Entity Statement must also be filed. (Note 37 C.F.R. 1.9, 1.27, 1.28).				\$0	
SUBTOTAL =				\$890.00	
Processing fee of \$130.00 for furnishing the English translation later the _ 20 _ 30 months from the earliest claimed priority date (37 C.F.R. 1.492(f)).				+	
TOTAL NATIONAL FEE =				\$890.00	
Fee for recording the enclosed assignment (37 C.F.R. 1.21(h)). The Assignment must be accompanied by an appropriate cover sheet. (37 C.F.R. 3.28, 3.31). \$40.00 per property				+	
TOTAL FEES ENCLOSED =				\$890.00	
				Amount to be refunded:	\$
				Charged:	\$
a. <input checked="" type="checkbox"/> A check in the amount of \$890.00 to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. 11-0982 in the amount of _ to cover the above fees. A duplicate copy of this sheet is enclosed. c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 11-0982. A duplicate copy of this sheet is enclosed.					
NOTE: Where an appropriate time limit under 37 C.F.R. 1.494 or 1.495 has not been met, a petition to revive (37 C.F.R. 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					

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Use Express Mail only on initial filing of national stage in the U.S. (371) or filing Missing Parts

Express Mail No.: EL763826508US

Date of Deposit: November 27, 2001

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	: Harry GOZLAN	Group Art Unit: Examiner:
Appln. No.	:	
Filed	: November 27, 2001	
Title	: PROCESS AND SYSTEM FOR PROCESSING, BY MUTUAL AGREEMENT, ORDERS TO BUY AND SELL RELATING TO STANDARD AND/OR SPECIFIC FINANCIAL INSTRUMENTS	
Docket No.	: S857.312-1	

**PRELIMINARY AMENDMENT**

**SENT VIA EXPRESS MAIL**

Assistant Commissioner for Patents  
Washington, D.C. 20231

Express Mail No.: EL763826508US

Sir:

Prior to calculation of the filing fee and examination please amend the above-identified application as follows:

IN THE ABSTRACT

Please add the following abstract on a separate sheet. (marked up version attached in Appendix)

First Named Inventor: Harry GOZLAN

Application No.:

-2-

ABSTRACT

The invention concerns methods and systems for processing, by mutual agreement, between users provided with computerized terminals, purchased and sale orders on standard and/or specific financial instruments. Said method comprises at least one of the following steps: collecting the purchase and sale orders placed by users; compiling and grouping the orders by price; distributing the orders to the users; matching the orders when they are compatible; carrying out a transaction when two orders have been matched.

First Named Inventor: Harry GOZLAN

Application No.:

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REMARKS

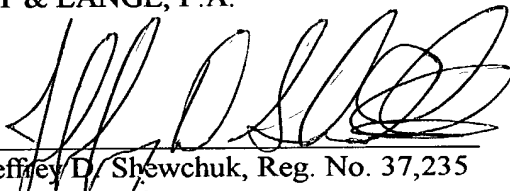
It is respectfully requested that the above amendments be made prior to calculating the filing fee. In this Preliminary Amendment, an abstract is added on a separate sheet. The Examiner is invited to contact the undersigned attorney at the number listed below if such a call would in any way facilitate examination of the application.

Respectfully submitted,

KINNEY &amp; LANGE, P.A.

Date: November 27 2001

By



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JDS/RMR:beh

First Named Inventor: Harry GOZLAN

-A1-

Application No.:

**APPENDIX:  
MARKED UP VERSION OF SPECIFICATION AND CLAIM AMENDMENTS**

**ABSTRACT**

The invention concerns methods and systems for processing, by mutual agreement, between users provided with [computerised] computerized terminals [(40, 43, 47, 48, 50, 43', 47', 50')], purchased and sale orders on standard and/or specific financial instruments. Said method comprises at least one of the following steps: collecting [(45, 42, 45', 42')] the purchase and sale orders placed by users; compiling and grouping [(45, 42, 45', 42')] the orders by price; distributing [(45, 42, 45', 42')] the orders to the users; matching [(45, 42, 45', 42')] the orders when they are compatible; carrying out a transaction [(45, 42, 45', 42')] when two orders have been matched.



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor	: Harry GOZLAN	Group Art Unit: Examiner:
Appln. No.	:	
Filed	: November 27, 2001	
Title	: PROCESS AND SYSTEM FOR PROCESSING, BY MUTUAL AGREEMENT, ORDERS TO BUY AND SELL RELATING TO STANDARD AND/OR SPECIFIC FINANCIAL INSTRUMENTS	
Docket No.	: S857.312-1	

**SUBSTITUTE PRELIMINARY AMENDMENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

**SENT VIA EXPRESS MAIL**

Express Mail No.: EV030140457US

Sir:

Prior to calculation of the filing fee and examination please amend the above-identified application as follows:

IN THE ABSTRACT

Please add the following abstract on a separate sheet. (marked up version attached in Appendix)

First Named Inventor: Harry GOZLAN

Application No.:

-2-



ABSTRACT

The invention concerns methods and systems for processing, by mutual agreement, between users provided with computerized terminals, purchased and sale orders on standard and/or specific financial instruments. Said method comprises at least one of the following steps: collecting the purchase and sale orders placed by users; compiling and grouping the orders by price; distributing the orders to the users; matching the orders when they are compatible; carrying out a transaction when two orders have been matched.



First Named Inventor: Harry GOZLAN

Application No.:

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IN THE CLAIMS

Please amend the application such that claims 1-11 read as follows:

1. A system for processing, by mutual agreement between users with computer terminals, orders to buy and sell relating to standard and/or specific financial instruments; said system being such that it includes at least one server centre including:

- collection and storage means to collect, in real or pseudo-real time, orders to buy and sell placed by users,
- computer processing means to compile and aggregate by price orders subject to terms of validity;

said computer processing means comprising management means to manage said terms by only taking into account valid orders,

in such a way that an optimised and homogeneous offer is thus obtained,

said server centre being connected via an IT communication network, particularly of the Internet type, to said computer terminals,

in such a way that the users receive the orders and data sent by the server centre;

the computer processing means of said server centre including analysis means to match compatible orders and indicate that a transaction may occur between users placing the relevant orders.

2. A system according to claim 1 such that, to match the compatible orders and indicate that a transaction may occur between users placing the relevant orders, said analysis means comprise selection means to select users who are able to negotiate between themselves and/or who are only able to negotiate certain instruments and/or who are only able to negotiate deals of a certain amount.

3. A system according to claim 1, such that said computer processing means process the orders and associated financial instruments

First Named Inventor: Harry GOZLAN

Application No.:

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- by managing
- \* the terms of existence of said orders, particularly in relation to internal and/or external conditions, for example the value of the CAC index, and/or
- \* the parameters of said orders, particularly as a function of internal and/or external parameters, for example the price as a function of the date, and/or
- by batching the orders and by placing batched orders, and/or
- by seeking synthetic financial instruments to facilitate the conclusion of the orders placed, and/or
- by seeking synthetic financial instruments to allow a designated group of users to negotiate a maximum number of orders with at least one other user.

4. A system according to claim 1 such that said analysis means to match compatible orders and indicate that a transaction may occur include transmission means, particularly by fax, by e-mail or by telex, to confirm the transaction to each of the users concerned.

5. A system according to claim 1 such that the collection means comprise an Internet browser.

6. A process for processing, by mutual agreement, between users having computer terminals, orders to buy and sell relating to standard and/or specific financial instruments; said process including the following stages:

- orders to buy and sell placed by users are collected in real or pseudo-real time.
- the orders are subject to terms of validity are compiled and aggregated by price, by managing said terms in such a way that only valid order are taken into account
- the orders are allocated to the users,
- the orders are matched when they are compatible,

First Named Inventor: Harry GOZLAN

Application No.:

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- when two orders have been matched a transaction is made.
7. A process according to claim 6 such that to match the orders
- users are selected who are able to negotiate between themselves and/or who are only able to negotiate certain instruments and/or who are only able to negotiate deals of a certain amount.
8. A process according to claim 6 additionally comprising the stage of processing the orders and the associated financial instruments
- by managing
  - \* the terms of existence of the order, particularly in relation to internal and/or external conditions, for example the value of the CAC index, and/or
  - \* the parameters of the order, particularly as a function of internal and/or external parameters, for example the price as a function of the date, and/or
  - by batching the orders and by placing batched orders, and/or
  - by seeking synthetic financial instruments to facilitate the conclusion of the orders placed, and/or
  - by seeking synthetic financial instruments to allow a designated group of users to negotiate a maximum number of orders with at least one other user.
9. A process according to claim 6 such that to make a transaction when two orders have been matched
- an automatic procedure is triggered sending confirmations, particularly by fax, e-mail or telex, to each of the users concerned.
10. A process according to claim 6 such that to collect in real-time or pseudo-real time orders to buy and sell placed by users,

JDS/RMR:beh



First Named Inventor: Harry GOZL

-A1-

Application No.:

**APPENDIX:  
MARKED UP VERSION OF SPECIFICATION AND CLAIM AMENDMENTS**

**ABSTRACT**

The invention concerns methods and systems for processing, by mutual agreement, between users provided with [computerised] computerized terminals [(40, 43, 47, 48, 50, 43', 47', 50')], purchased and sale orders on standard and/or specific financial instruments. Said method comprises at least one of the following steps: collecting [(45, 42, 45', 42')] the purchase and sale orders placed by users; compiling and grouping [(45, 42, 45', 42')] the orders by price; distributing [(45, 42, 45', 42')] the orders to the users; matching [(45, 42, 45', 42')] the orders when they are compatible; carrying out a transaction [(45, 42, 45', 42')] when two orders have been matched.

21/PATS

09/980231

JC10 Rec'd PCT/PTO 27 NOV 2001

PROCESS AND SYSTEM FOR PROCESSING, BY MUTUAL AGREEMENT,  
ORDERS TO BUY AND SELL RELATING TO STANDARD AND/OR  
SPECIFIC FINANCIAL INSTRUMENTS.

The present invention relates to the processes and systems allowing orders to buy and sell to be submitted and/or optimised and/or made and/or executed on instruments, mainly financial, processed by mutual  
5 agreement.

The instruments concerned are standard instruments and/or specific instruments.

Standard instruments.

10 In terms of the present invention, standard instruments are instruments whose characteristics are constant, cannot be modified by users, and are pre-entered in the system. As an example of a standard instrument may be cited the case of a deposit of six-  
15 months duration in USD (US dollars), starting on the current value date, in other words two working days after the current date.

Specific or non-standard instruments.

In terms of the present invention, by specific (or non-standard) instruments are denoted all other instruments. These are instruments with characteristics set and introduced into the system by a user. By definition, they do not exist in the range of standard instruments. As an example of a specific instrument may be cited the case of a deposit of six-months duration in US dollars, starting in 126 working days time, or again the case of a deposit of six months duration with a monthly writing off of capital.

In the case of standard instruments, as in the case of specific instruments, the process and system according to the invention allow a call for buy and sell "bids" to be organised in real-time, among the users connected to the systems. The process and system according to the invention meet and deliver the following services, whether the instruments are standard or specific.

The procedure for processing, by mutual agreement between users with computer terminals, orders to buy and sell relating to standard and/or specific financial instruments; said process includes at least one of the following stages:

a) orders to buy and sell placed by users are collected in real or pseudo-real time.

b) The orders are compiled and aggregated by price.

c) The orders are allocated to the users.

d) The orders are matched when they are compatible.

e) When two orders have been matched a transaction is made.

To advantage, the process according to the invention additionally comprises the stage of

processing the orders and associated financial instruments

- by managing

\* the terms of existence of the order,  
5 particularly in relation to internal and/or external  
conditions, for example the value of the CAC index,  
and/or \* the parameters of the order, particularly as a  
function of internal and/or external parameters, for  
example the price as a function of the date,

10                      and/or

- by batching the orders and by placing batched orders, and/or

- by seeking synthetic financial instruments to facilitate the conclusion of the orders placed, and/or

15           - by seeking synthetic financial instruments to  
allow a designated group of users to negotiate a  
maximum number of orders with at least one other user.

And preferably, in order to collect orders to buy and sell placed by users in real or pseudo real-time, an Internet browser is used.

Preferably also, to compile and aggregate by price orders subject to terms of validity, said terms are managed in such a way that only valid orders are taken into account.

25           In this way, an optimised and homogeneous  
distribution of trading interests, and an easy to  
follow market penetration is obtained.

30 Preferably also, in order to match orders, users are selected who are able to negotiate between themselves and/or who are only able to negotiate certain instruments and/or who are only able to negotiate deals of a certain amount.

Preferably also, to make a transaction when two orders have been matched, an automatic procedure is set in motion by which confirmations are sent, particularly



by fax, by e-mail or by telex, to each of the users concerned.

The present invention also concerns a system for processing, by mutual agreement between users with  
5 computer terminals, orders to buy and sell relating to standard and/or specific financial instruments. The system according to the invention includes at least one server centre. Each server centre includes:

- collection and storage means to collect, in real  
10 or pseudo-real time, orders to buy and sell placed by users,

- computer processing means to compile and aggregate the orders by price.

Said server centre is connected, via an IT  
15 communication network, particularly of the Internet type, to said computer terminals.

In this way, users receive orders and data sent by the server centre.

The computer processing means of said server  
20 centre additionally include analysis means to match compatible orders and indicate that a transaction may occur between users placing the relevant orders.

To advantage, said computer processing means process the orders and the associated financial  
25 instruments

- by managing

\* the terms of existence of said orders,  
particularly in relation to internal and/or external conditions, for example the value of the CAC index,  
30 and/or

\* the parameters of said orders, particularly as a function of internal and/or external parameters, for example the price as a function of the date, and/or

- by batching the orders and by placing batched  
35 orders, and/or

- by seeking synthetic financial instruments to facilitate the conclusion of the orders placed, and/or
- by seeking synthetic financial instruments to allow a designated group of users to negotiate a maximum number of orders with at least one other user.

Preferably also, the collection means comprise an Internet browser.

Preferably also, to compile and aggregate by price orders subject to terms of validity, the computer processing means comprise management means to manage said terms in such a way that only valid orders are taken into account.

In this way, an optimised and homogeneous distribution of market interests, and an easy to follow market penetration is obtained.

Preferably also, to match compatible orders and indicate that a transaction may occur between users placing the relevant orders, said analysis means comprise selection means to select users who are able to negotiate between themselves and/or who are only able to negotiate certain instruments and/or who are only able to negotiate deals of a certain amount.

Preferably also, said analysis means to match compatible orders and indicate that a transaction may occur include transmission means, particularly by fax, by e-mail or by telex, to confirm the transaction to each of the relevant users.

Other characteristics and advantages of the invention will emerge from reading the description of the embodiment variants of the invention, given as non-restrictive examples, and from:

- figures 1a and 1b showing diagrammatically various systems currently used manually to allow transactions to be made between traders (operations known by the operating term "trading"),

- figure 2 showing the system according to the invention.

The description will now be given, with reference to figures 1a and 1b, of the configurations of the different systems currently employed manually to allow transactions to be made between traders.

Financial markets depend on exchanges of instruments. These exchanges are made between various players or groups of players in accordance with certain channels of distribution and communication. The architecture of these channels takes into account the functions of each type of player, and conversely, the function of each player or group of players implicitly defines the nature of the connections, which bind them mutually together. Figure 1.a shows a diagrammatic view of the organisation of these connections, giving a very simple outline of the groups of players actively involved.

This figure shows a trading room 1 of a bank located in a given town (Bank A in Paris) for which two trading "desks" have been shown. At these desks sit two major categories of market trader: the sellers (desk 1.a) and the risk position dealer-managers (desk 1.b). It should be observed that the seller is not necessarily in the same room as the dealer: he may be in a provincial branch, or in another room. Some sellers 1.c manage the relationship with the client companies (for example PEUGEOT), by giving them data, prices, advice. Another seller 1.d may be responsible for monitoring the market relationships not with companies, but with banks (interbank seller). The seller gets his added value from the margins he clears between the prices traded with the customer, and the price at which the bank covers itself in the market via the dealer.

Internal departments may be led to call upon traders in a trading room: for example, financial services 9 may need to take out insurance in the markets to cover itself against its balance sheet risks. It generally communicates with the "room" by telephone.

This data exchange, particularly of price requests, is repetitive, and usually takes place by telephone, intercom, or even fax and e-mail. It is therefore entirely manual. Sometimes the dealers publish their buy and sell terms on internal electronic data pages (following the example of an exchange office on the Champs-Élysées which has the price at which it buys and sells its currencies on permanent display).

Sitting at the dealers' desk will be found different types of risk dealers/managers, distributed by trading or instrument category, these traders manage:

- quotations and exchange risks 1e,
- American bonds 1g,
- rate derivative products 1h,
- loan and borrowing products (treasury) 1i, etc.

In larger banks, a trading desk has only same category traders.

Dealers are also led to communicate and deal between themselves: for example, trader 1g responsible for American bonds may be led to divest himself of a residual American dollar exchange risk on his bonds position by making an American dollar against Euro deal with exchange trader 1e. In this event, dealer 1g is like a seller, or rather a customer in relation to trader 1e.

All these exchanges are administered by telephone, intercom, fax, electronic conversational terminal of the Reuter 2000 type, e-mail, etc. These exchanges are therefore manual and of the "one-to-one" type.

A room 2 of the same type as room 1 may be found in the same bank A but in another location (for example in New York), or in another banking establishment B in Paris 3 or in New York 4, or in other banks C6, D7.

5        These "nodes" taken together constitute the financial market 5. The area 5 shows symbolically the multitude of banks, customers, or other players, who can come into contact with bank A.

10       In order to regulate and facilitate exchanges between banks, the brokers 8, who are the real intermediaries for transactions between banks, are each connected to a large number of banks. They are also sometimes connected to other brokers. Their job is to match the trading interests of the banks connected to  
15       them. Their remuneration is the commission on each deal carried out through their agency. These brokers most often communicate by telephone with their customers (who are dealers in general or position managers). They can also communicate by Reuter Dealing 2000 electronic  
20       conversational terminal. They use to a greater or lesser degree the same means of communication as between the sellers and the dealers of a same bank.

Figure 1b shows the front view of a conventional screen arrangement as can be found with a trader  
25       responsible for making quotations and for managing risk transaction portfolios (operations otherwise known as "Desk trading" or in "Desk trader".

The reference 20a denotes a telephone board, including some ten lines kept permanently open to  
30       certain interlocutors (generally brokers), and a large number of traditional telephone lines. The open lines generally allow communication with interlocutors selected by means of one or more microphones. The reference 21 denotes the loudspeaker outputs of the  
35       open telephone lines.

The reference 22 denotes a market information display screen. The reference 23 denotes a window of the screen 22 displaying Reuter information, particularly economic, financial, specialised, random news, in the form of a scrolling menu. The reference 24 denotes a sub-window of the Reuter window 23, showing, particularly, prices, company data, price tracking and analyses relative to a particular company, or to a particular economic area. The reference 25 denotes a window of the screen 22 used to display the USD/EURD exchange rate. The reference 26 denotes a window of the screen 22 used to display market news. The reference 27 denotes a window of the screen 22 on which is displayed inter alia the Dow Jones index and ASSOCIATED PRESS news.

The reference 31 denotes a second display screen. The reference 28 denotes a window of the screen 31 showing graphically the interest rate background. The reference 29 denotes a window of the screen 31 allowing the display of the Bloomberg message service (an electronic message system available from an access point to a data and analysis network belonging to the Bloomberg Co). The reference 30 denotes a window of the screen 31 allowing implementation of the Reuter Dealing system (an electronic conversation system, connected to other bank traders).

The reference 32 denotes a Reuter 2000 screen, which is an interbank electronic broker, integrated with the Reuter Dealing conversation terminal, allowing standard cash exchange operations between banks. The reference 33 denotes a screen allowing the implementation of an "electronic broking system" taken from the name of a company providing electronic interbank broking services, after the Reuter 2000 system described above.

The reference 34 denotes a display screen dedicated to entering transactions, displaying positions and market risks, etc. (Front Office). The reference 35 denotes a window of the screen 34. This window is dedicated to entering deals. The reference 36 denotes a window of the screen 34. This window displays the profits and losses for the day. The reference 37 denotes a window of the screen 34. This window allows the positions (stocks) to be displayed. The reference 39 denotes a window of the screen 34. This window allows credit lines to be displayed.

The system according to the invention will now be described, with reference to figure 2, which shows diagrammatically an embodiment variant. The architecture connects the same players as those in figure 1a. Traditional links such as telephone, fax, intercom, etc. are in the case of the invention all replaced by a single data transmission mode: computer links, generally of the TCP/IP (Transmission Control Protocol/Internet Protocol) type 46. Users all act through a terminal, having a Man-Machine interface programmed in an object language (Java, C++, etc.), which communicates with the network via an Internet browser 51.

A component central to each bank, composed of one or more application servers 45 and of a database which may or may not be relational 42, manages the collection, the compilation and the redistribution of prices or quotations. It also manages the transactional process which allows a deal to be concluded from two interests having the same characteristics but acting in opposite directions (a buyer, a seller, same instrument, compatible amounts, compatible prices, counterparts compatible with each other).

Users have computer terminals connected to the server 45, 45' (in the remainder of the text the same

numerical reference will be used to denote the user under consideration and the computer terminal at his disposal). Let us consider users entering into deals in the context of bank A. Some users (of the dealer type  
5 48) supply the server 45 with quotations, others place firm orders (for example the sellers 47, or a PEUGEOT customer 40, or the financial services department 50, or the New York branch of bank A 43).

The server may be accessed in different ways:

- 10 - on an internal computer network called an LAN (local area network) or WAN (wide area network) depending on size, and/or
- by telephone lines 49.

Connections via the Internet network 44 may also  
15 be used. The communication protocol is of the TCP/IP type (see above), and is secure. The mode may be:

- connected (I.I.O.P. = Internet Inter ORB Protocol, ORB = Object Request Broker) 52, and/or
- disconnected (type HTTP: Hypertext Transfer  
20 Protocol).

Data transmissions are encrypted by standard means, authentication of users is provided by the presence of server certificates which recognise the electronic signatures of each person connecting on the  
25 platform.

A central component of this type, supplemented by the various access means allowing it to be supplied, constitutes an electronic transactional platform 53  
internal to a same bank (intra bank platform).

30 Bank B is also equipped with an electronic platform 54, of a similar configuration to that in bank A. The electronic platform 54 includes: the applications server 45' of bank B in Paris, the data server 42' of bank B in Paris, the Internet browser 51'  
35 of bank B in Paris, the terminals 47' of bank B in Paris, the terminals 50' of the financial services



department of bank B in Paris, the terminals 43' of bank B in New York. These two platforms 53 and 54 are able to communicate with each other either directly, or via the Internet network 44.

5       The system may also include a platform 55 of the  
inter bank platforms, capable of communicating either  
with an intra bank platform of type 53 of 54, or with a  
single user connected directly to it. This directly  
connected user may be a dealer in a bank of smaller  
10 size. The latter bank therefore has no need to be  
equipped with an internal electronic platform.

In this way, an interconnected network is constituted, potentially allowing all the interests of all the market traders of all the banks to be collected together. Rules of the game (or rules of compatibility) are laid down with a view to limiting the access of each individual to this network, according to different and varied criteria (selective blocking 41).

The system incorporates a definition of compatibility parameters specific to each user, which produces an individual behavioural profile design. The prices, which can be viewed by each user, are therefore firm at all times: there is no need for them to be verified.

25           A. Collecting orders to buy and sell in real or in  
pseudo-real time.

In fact the connection 44, 46, 49, 52 between the terminals 40, 43, 47, 48, 50, 43', 47', 50', and the server 45, 45' is not necessarily kept permanently open (real time mode) for reasons of security. It is rather a question of single very close two-way sequences (pseudo-real mode).

In the remainder of the description the notions of  
35 "real-time" or "pseudo-real time" will be interpreted  
as defined below.

Thus, for example, in the event of a two-way transfer between A and B, the transfer is made in real-time if the A output gate between A and B is open permanently, as is that of B between B and A. A datum  
 5 can then freely escape from A to go to B and vice versa. While it is in transit, the doors remain open. This mode is termed connected.

In the event of a transfer in pseudo-real time, the transit process is different. The A to B gate is  
 10 open, the datum can transit to B. The A gate closes immediately afterwards. The B gate opens when the datum arrives. The B gate closes immediately the datum has arrived. And likewise in the other direction. This mode is termed pseudo-connected. In practice, opening the A  
 15 and B gates is sequenced at regular intervals (every 1/2 seconds, or every second, or more), in such a way that updating takes place only at fixed intervals, giving the impression of being in real-time when the sequences are very close together.

20 The platform 53, 54, 55 offers users 40, 43, 47, 48, 50, 43', 47', 50' the possibility of sending to the central server 45, 45' one or more orders to buy or sell, for a selected quantity, of a given standard or specific instrument. This entry is made from an  
 25 Internet browser 51, 51'.

The order is "manual" if the user enters all the parameters of this order (instrument, price, quantity, direction, terms of validity, etc), or semi-automatic when some of these parameters are controlled by an  
 30 automatic external contribution, which then updates them every time they change.

#### B. Compiling and distributing these orders

35 The server 45, 45' optimises all these manual or semi-automatic orders in an objective and systematic way. It compiles them and aggregates them by price,

thus producing a homogeneous distribution. Since these orders are subject to certain terms of validity, the server manages these terms in such a way that only valid orders are taken into account.

5           In the remainder of the description the notions of  
"optimisation", "compilation", "aggregation" or  
"homogeneous offer" will have the meaning defined  
below.

## 10 Optimisation

Optimisation of manual or semiautomatic orders consists in finding automatically the optimum solution to a request.

For example, the request may be of the type: "Out  
15 of all the possibilities offered by combinations of  
instruments among themselves, what is the best  
combination to procure a six months loan in USD as  
cheaply as possible?"

Various solutions are conceivable:

20       - there is a suitable offer (from a lender)  
directly in the system.

- by borrowing for three months from a lender existing in the system, and by re-borrowing in three months time for three months (from another existing offer), a six-month 2 deal loan is obtained synthetically, and the resulting rate is lower than that proposed for a six-month loan directly in the system."

In another example, the request may be of the type: "Of all the orders existing in the system and coming from bank users, which deal would it be appropriate to enter into with for example a customer in order to meet all ones present interests in the best and most approachable way; in other words which would be the best deal to reduce the bank's overall exposure as far as possible."

### Compilation

An order base exists for each category of instrument. These orders are

- 5       - either fixed, i.e. they comprise characteristics which do not vary, either in price, or in quantity,
- or dependent on external conditions, the price of the order may be a function of another market. For example, the price of borrowing USD on deposit for six
- 10     months may be equal to the three-month loan price less 0.56%. Or again the validity of the order may depend on the level of the CAC index, for example: the order is valid provided the CAC index remains above 4035.

Every time a fixed order is entered into the base, or a variable order is modified, or its validity changes, the order base is modified as a result. The base must therefore be compiled by the server 45, 45'. To allow the market to be properly monitored by the users, it is necessary to reclassify these orders for

20     each instrument, by price, according to the rules of compatibility of each, by aggregating the quantities of several orders which would be entered at the same price, etc. This calculation, made by the server 45, 45' is the market compilation, in an easily readable

25     "grid". The compilation therefore incorporates at each moment fixed orders, and orders depending on other parameters. In this case, to carry out the compilation, the system generates beforehand an order which it incorporates into the base of fixed orders. Then the

30     system classifies this order and aggregates it.

### Aggregation

As has just been disclosed, aggregation consists in adding up the quantities of several orders with identical characteristics (same direction, same

35     instrument, same price). Rather than displaying, during compilation, only the amount of one of them, it is

necessary to add together all the amounts of these orders so that the user can see the total amount available to buy or to sell for the price level under consideration. This is what is called aggregating the  
5 orders of the same instrument by price level.

### Homogeneous distribution

To illustrate the notion of the homogeneous distribution of the prices and amounts of a compiled  
10 and aggregated order base, for buying on one hand, and for selling on the other hand, for each instrument, let us take an example.

For example, let us take an instrument X. Let us suppose that the orders to buy, in their order of  
15 arrival, are as follows.

INSTRUMENT X				INSTRUMENT Y
	Amount *	Price		
1.	150	4.55		Best bid price : 6.36
2.	35	4.56		
3.	45	4.55		
4.	60	4.51		
5.	500	4.56		
6.	100	Best Instrument Y bid price less 1.80		

\* in millions of francs.

In the compilation phase, the server 45, 45' calculates the characteristics of each order, in order to produce, at a time t, the series of orders:

REF	INSTRUMENT X			INSTRUMENT Y
	Amount	Price		
1. A	150	4.55		Best bid price: 6.36
2. B	35	4.56		
3. C	45	4.55		
4. D	60	4.51		
5. E	500	4.56		

6.	F	100	4.56
----	---	-----	------

Then the server 45, 45' classifies the orders by price:

REF	INSTRUMENT X			INSTRUMENT Y
	Amount	Price		
1. B	35	4.56		Best bid price: 6.36
2. E	500	4.56		
3. F	100	4.56		
4. A	150	4.55		
5. C	45	4.55		
6. D	60	4.51		

At this stage of the operation, the offer distribution is not homogeneous. The server 45, 45' aggregates the amounts to arrive at a display:

REF	INSTRUMENT X			INSTRUMENT Y
	Amount	Price		
1. B+E+F	635	4.56		Best bid price: 6.36
2. A+C	195	4.55		
3. D	60	4.51		

A homogeneous distribution is thus achieved.

The moment an order to sell at 4.56 is processed, an order of priority is adhered to in respect of the buyers coming in at 4.56. The order of priority will be: the first buyer to arrive chronologically will be the first served.

The server is responsible for matching the orders which may give rise to a transaction, in a selective way, by taking into account the validity criteria for each order, and the accounting criteria between two orders (some users are unable to conclude a firm transaction with other users, or are unable to deal with certain types of instrument, or are unable to make deals over a certain amount, or else have other selection criteria for the deals that they may or may

not make: this represents validity and accounting criteria).

### Matching

5 To clarify the notion of matching, let us look again at the previous example. The following order to sell comes in: "sell 580 million francs of instrument X (580MM) at 4.56 francs per instrument". In this case matching consists for the server 45, 45' in identifying  
10 the orders to buy, in order of priority, in other words in order of arrival in the base, which are eligible to be set against the new order to sell with the potential objective of concluding a transaction.

In the event, the matching involves:

15 Order B in its entirety 35 MM at 4.56  
Order E in its entirety 500 MM at 4.56  
Order F partially 45 MM at 4.56  
(there will remain 55 MM at 4.56 for order F)  
i.e. in total: 580 MM to be matched with the 580 MM of  
20 the order to sell.

These orders are presumed to be compatible.

In the intrabank case, there is no difference between matching and transaction, since no verification is necessary for the transaction to be authorised.

25 In the interbank case, once the name or names to be matched appear, a search has to be undertaken to find out if, at the precise moment, the credit authorisations are valid. This procedure is known as the "checking" (or control) of the names of the  
30 counterparts. It will be observed that it is possible for matched deals not to be concluded.

The server fulfils a distributor function. The server is responsible for indicating to each user the state of the market, in other words it indicates via  
35 the permanent screen display for standard or specific instruments what the optimum buy or sell conditions are

as a function of the accounting criteria entered for each user. The result is that every user does not "see" the same market.

In the remainder of the description the notions of "distribution" or of "optimum buy or sell conditions" will have the meaning defined below.

### Distribution.

The server 45, 45' receives market orders from the various connected user terminals 40, 43, 47, 48, 50, 43', 47' 50'. It displays back the homogeneous distribution of each instrument to each terminal of each user as a function of his own specific accounting criteria.

The display operation is managed by the program entered in each terminal. It consists in putting on the screen, in a way known per se, the data characterising the homogeneous distribution.

In the example described, the server receives the following orders in the order:

REF	INSTRUMENT X		INSTRUMENT Y
	Amount	Price	Best bid price: 6.36
1.	150	4.55	
2.	35	4.56	
3.	45	4.55	
4.	60	4.51	
5.	500	4.56	
6.	100	4.56 Best Instrument Y bid price less 1.80	

And it sends back the following, homogeneous distribution - presuming the compatibility rules are verified.

REF	INSTRUMENT X	
	Amount	Price
1.	635	4.56



2.	195	4.55	
3.	60	4.51	

The man-machine interface displays on the screen of the user 40, 43, 47, 48, 50, 43', 47', 50', who receives it, this homogeneous distribution.

5 Optimum buy and sell conditions.

This is, for a given instrument, the best buy and sell price available as a function of ones own accounting criteria. If in the previous example, orders B, C, and E are incompatible, the optimum distribution will be one excluding these three orders. Once compiled and aggregated by the server 45, 45' the optimum distribution will be:

REF	INSTRUMENT X		
	Amount	Price	
1.	100	4.56	
2.	150	4.55	
3.	60	4.51	

It is through an iterative process of submitting/sending orders, displays, initial order modification etc. that negotiation in real or pseudo-  
5 real time is born.

#### Iterative process

The actual negotiation between a buyer W and a seller Z will be expressed, around a same instrument,  
10 by the modification each of the two players makes to their buy terms in respect of W and sell terms in respect of Z. W will seek to bring Z's price lower, and conversely for Z. W may bluff by withdrawing his order making it seem that another seller has sold him the  
15 instrument, or modify the amount of the order. It is through these price and amount modification actions that an interactive and iterative negotiation process is set in motion. The iteration is pursued until W's and Z's prices are equal. In reality, several buyers  
20 and sellers are found around one instrument, in such a way that the negotiation game becomes interactive.

#### C. Making transactions

When the server has been able to match two  
25 compatible orders, it automatically generates a transaction. It may be led to request confirmation from each of the counterparts before finally clinching the transaction where a "manual" credit commitment agreement is to be established between the players. In  
30 other cases, the process is entirely automated.

There then follows the automatic sending of confirmations by e-mail, fax, or telex, to each of the two counterparts.

5 D. Intelligent system particularities, with examples.

The server can administer certain optimisation functions:

Existence of order-related terms of validity.

10 An order may find its validity or its parameters depending on external conditions such as:

\*the order parameters such as price, amount, are functions of other external parameters (date, dollar rate, external temperature, etc.) or internal parameters (parameters belonging to other orders  
15 present in the system). E.g.: "the price of my order is equal to the price of another order less two francs", or "the amount of my offer is equal to 100 multiplied by the dollar rate".

\*the existence, therefore the validity of the  
20 order, depends on external or internal conditions. E.g. "I'll buy such and such an instrument at three francs as long as the CAC index remains above 4000", or "I'm bidding for 500 million but I only want transactions of at least 100 million at one and the  
25 same time", or "my order is valid each day between 14.00 hours and 17.30 hours".

Placing batched interconnected orders.

As an example of batched orders the following order may be cited: "I'll buy product A at three francs  
30 if I can sell product B at 5 francs". Combined with the previous function, the general case is obtained of batched orders being placed whose validity is dependent on external conditions. For example: "I'll buy product A at three francs, if I can sell product B at 5 francs  
35 and this will stand as long as the CAC index remains above 4000".

Looking for an optimum price.

At the request of a user, the server looks for all the synthetic means of executing an order in such a way to improve the terms of operation.

5        \*detection of automatic arbitrage

In this case, the server alone searches, on behalf of each user, as a function of its own validity and accounting parameters, for pairs of synthetic operations made from different components, but  
10        producing an instrument with the same characteristics, in such a way that one may be bought less expensively than the other, and therefore clear an arbitrage profit. E.g.: I can borrow 10 million US dollars for six months at 4%. Furthermore, I can sell 10 million US  
15        dollars cash for French francs, and lend the French francs for six months, and sell forward in six months the capital and the interest generated in French francs against US dollars. This latter operation amounts synthetically to lending 10 million US dollars. If this  
20        second group of operations allows me to make a synthetic loan at 4.07%, I earn without risk 0.07% over the notional amount. This is pure arbitrage.

\*optimising an order by prior search for all possible arbitrages.

25        For example, if I am trying to lend 10 million US dollars for six months, I can either set in train the sequence of operations described in the previous case, and therefore procure a synthetic loan at 4.07%, or lend directly at 4% as a six month deposit.

30        \*searching out the type of deals which allow a designated group of users to "de-stock" their orders.

In other words, if several users display an interest on different instruments, it is a matter of making a synthetic instrument, which will be offered to  
35        another user in such a way that, by making the

transaction, a maximum amount of initial interests disappear.

5 Difference between arbitrage detection and optimisation  
by arbitrage

Automatic arbitrage detection consists in automatically triggering a sequence of operations when certain conditions are met.

10 For example, in the example of the arbitrage of the six months deposit, the system has identified the possibility of borrowing 10 MM dollars at 4% directly, and jointly the possibility

- of selling them for cash and buying them forward in six months for French francs

15 - of lending the francs thus obtained for six months.

20 Thus the system has identified that the flows in francs are cancelled in twos, and that the input flows of USD within six months, stemming from the forward buyback of USD, generate a synthetic USD loan at 4.07%.

In the case of automatic arbitrage detection, the system automatically triggers this joint operation sequence to give a gain at the end of the account of the difference between 4.07% and 4.00%.

25 Optimisation by arbitrage consists in searching among the synthetic means for the optimum sequence of operations, which can reduce my six month loan price on these dollars to the maximum. There is not in this case a totally settled sequence of operations.



# CLAIMS

1. A system for processing, by mutual agreement between users with computer terminals (40, 43, 47, 48, 50, 43', 47', 50'), orders to buy and sell relating to standard and/or specific financial instruments; said system being such that it includes at least one server centre (45, 42, 45', 42') including:

- collection and storage means to collect, in real or pseudo-real time, orders to buy and sell placed by users,

- computer processing means to compile and aggregate by price orders subject to terms of validity; said computer processing means comprising management means to manage said terms by only taking into account valid orders,

in such a way that an optimised and homogeneous offer is thus obtained,

said server centre (45, 42, 45', 42') being connected via an IT communication network (44, 46, 49, 52), particularly of the Internet type, to said computer terminals,

in such a way that the users receive the orders and data sent by the server centre;

the computer processing means of said server centre (45, 42, 45', 42') including analysis means to match

2. A system according to claim 1 such that, to match the compatible orders and indicate that a transaction may occur between users placing the relevant orders, said analysis means comprise selection means to select users who are able to negotiate between themselves and/or who are only able to negotiate certain instruments and/or who are only able to negotiate deals of a certain amount.

- by managing

\* the parameters of said orders, particularly as a function of internal and/or external parameters, for example the price as a function of the date, and/or

- by seeking synthetic financial instruments to facilitate the conclusion of the orders placed, and/or

4. A system according to any one of claims 1 to 3 such that said analysis means to match compatible orders and indicate that a transaction may occur include transmission means, particularly by fax, by e-mail or by telex, to confirm the transaction to each of the users concerned.

5. A system according to any one of claims 1 to 4 such that the collection means comprise an Internet browser (51, 51').

6. A process for processing, by mutual agreement,  
5 between users having computer terminals (40, 43, 47, 48, 50, 43', 47', 50'), orders to buy and sell relating to standard and/or specific financial instruments; said process including at least one of the steps comprised in the group of following stages:

10 - orders to buy and sell placed by users are collected (45, 42, 45', 42') in real or pseudo-real time.

- the orders subject to terms of validity are compiled (45, 42, 45', 42') and aggregated (45, 42, 45',  
15 42') by price, by managing (45, 42, 45', 42') said terms in such a way that only valid orders are taken into account

- the orders are allocated (45, 42, 45', 42') to the users,

20 - the orders are matched (45, 42, 45', 42') when they are compatible,

- when two orders have been matched a transaction is made (45, 42, 45', 42').

7. A process according to claim 6 such that to  
25 match the orders

- users are selected (45, 42, 45', 42') who are able to negotiate between themselves and/or who are only able to negotiate certain instruments and/or who are only able to negotiate deals of a certain amount.

30 8. A process according to any one of claims 6 or 7 additionally comprising the stage of processing the orders and the associated financial instruments

- by managing

\* the terms of existence of the order, particularly  
35 in relation to internal and/or external conditions, for example the value of the CAC index, and/or



\* the parameters of the order, particularly as a function of internal and/or external parameters, for example the price as a function of the date, and/or

5       - by batching (45, 42, 45', 42') the orders and by placing (45, 42, 45', 42') batched orders, and/or

      - by seeking (45, 42, 45', 42') synthetic financial instruments to facilitate the conclusion of the orders placed, and/or

10       - by seeking (45, 42, 45', 42') synthetic financial instruments to allow a designated group of users to negotiate a maximum number of orders with at least one other user.

9. A process according to any one of claims 6 to 8  
15 such that to make a transaction when two orders have been matched

      - an automatic procedure is triggered (45, 42, 45', 42') sending confirmations, particularly by fax, e-mail or telex, to each of the users concerned.

20       10. A process according to any one of claims 6 to 9 such that to collect (45, 42, 45', 42') in real-time or pseudo-real time orders to buy and sell placed by users,

      - an Internet browser (51, 51') is used.

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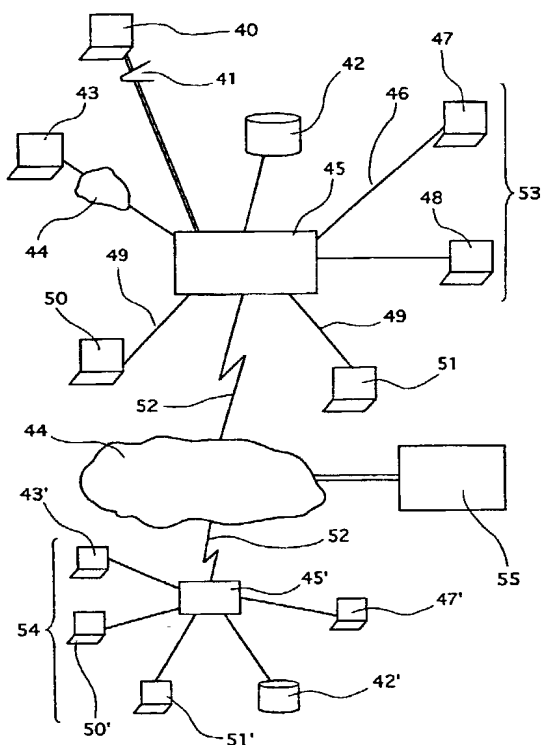
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[Suite sur la page suivante]

(54) Title: METHOD AND SYSTEM FOR PROCESSING, BY MUTUAL AGREEMENT, PURCHASE AND SALE ORDERS  
ON STANDARD AND/OR SPECIFIC FINANCIAL INSTRUMENTS

(54) Titre: PROCEDE ET SYSTEME POUR TRAITER, DE GRE A GRE, DES ORDRES D'ACHAT ET DE VENTE PORTANT  
SUR DES INSTRUMENTS FINANCIERS STANDARDS ET/OU SPECIFIQUES



(57) Abstract: The invention concerns methods and systems for processing, by mutual agreement, between users provided with computerised terminals (40, 43, 47, 48, 50, 43', 47', 50'), purchase and sale orders on standard and/or specific financial instruments. Said method comprises at least one of the following steps: collecting (45, 42, 45', 42') the purchase and sale orders placed by users; compiling and grouping (45, 42, 45', 42') the orders by price; distributing (45, 42, 45', 42') the orders to the users; matching (45, 42, 45', 42') the orders when they are compatible; carrying out a transaction (45, 42, 45', 42') when two orders have been matched.

(57) Abrégé: La présente invention concerne les procédés et les systèmes permettant de traiter, de gré à gré, entre des utilisateurs disposant de terminaux informatiques (40, 43, 47, 48, 50, 43', 47', 50'), des ordres d'achat et de vente portant sur des instruments financiers standards et/ou spécifiques. Ledit procédé comprend au moins l'une des étapes suivantes: on collecte (45, 42, 45', 42') les ordres d'achat et de vente passés par les utilisateurs; on compile et on agrège (45, 42, 45', 42') par prix les ordres; on distribue (45, 42, 45', 42') les ordres aux utilisateurs; on marie (45, 42, 45', 42') les ordres lorsqu'ils sont compatibles; on réalise une transaction (45, 42, 45', 42') lorsque deux ordres ont été mariés.

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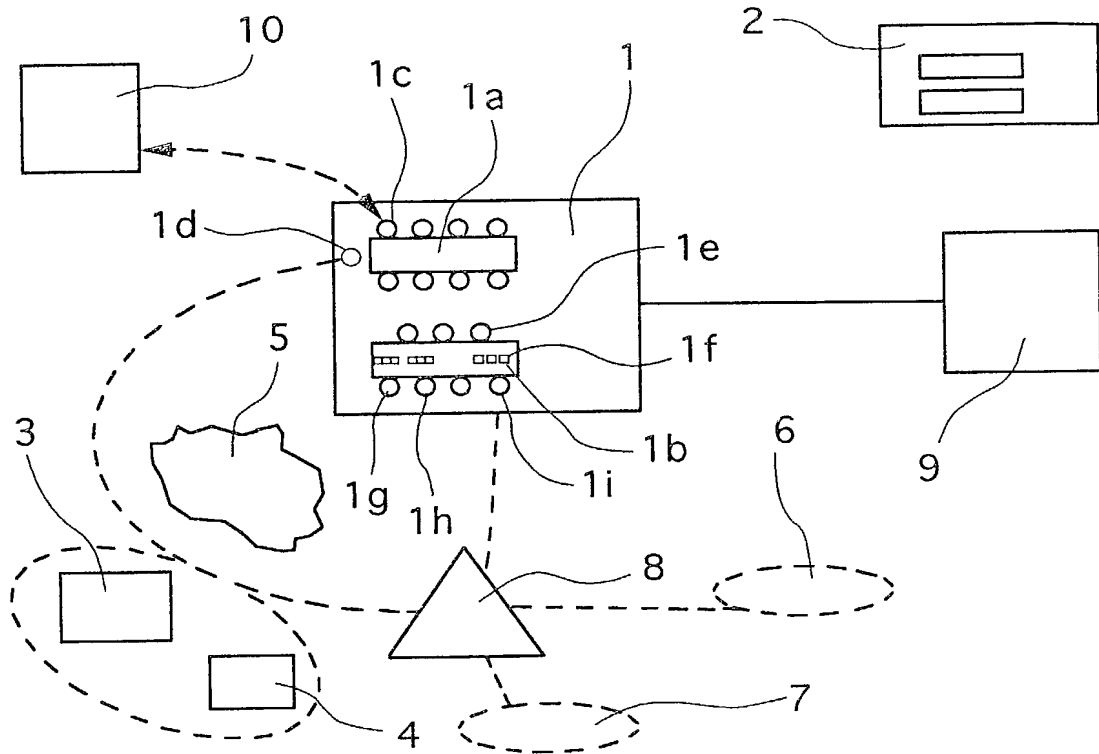


Fig. 1a

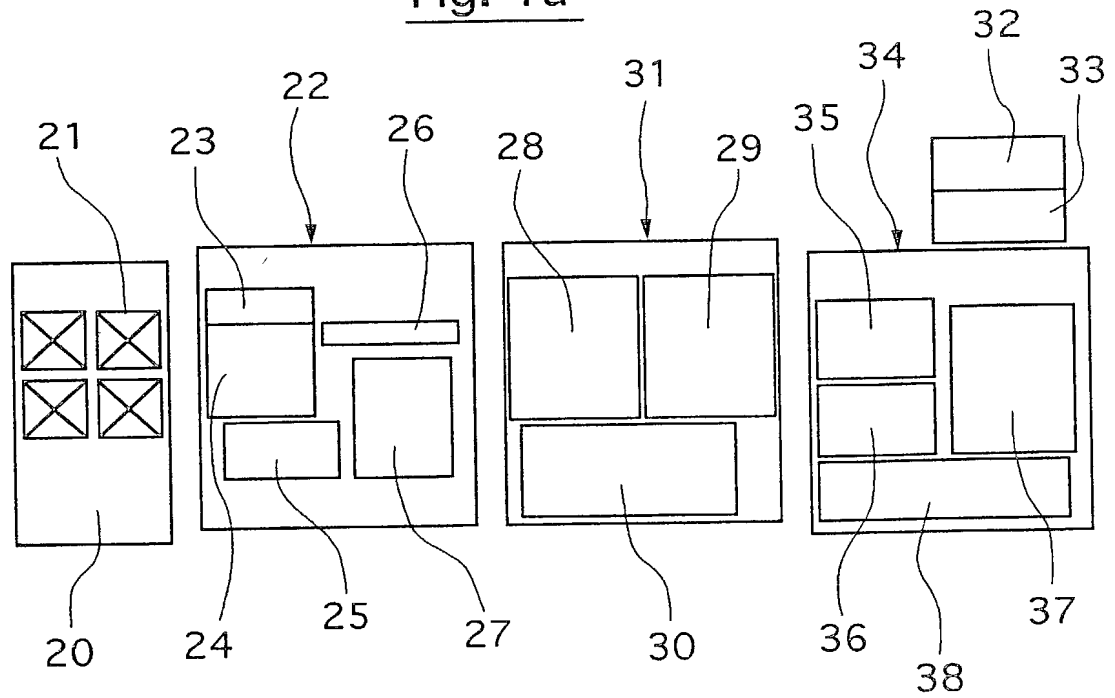
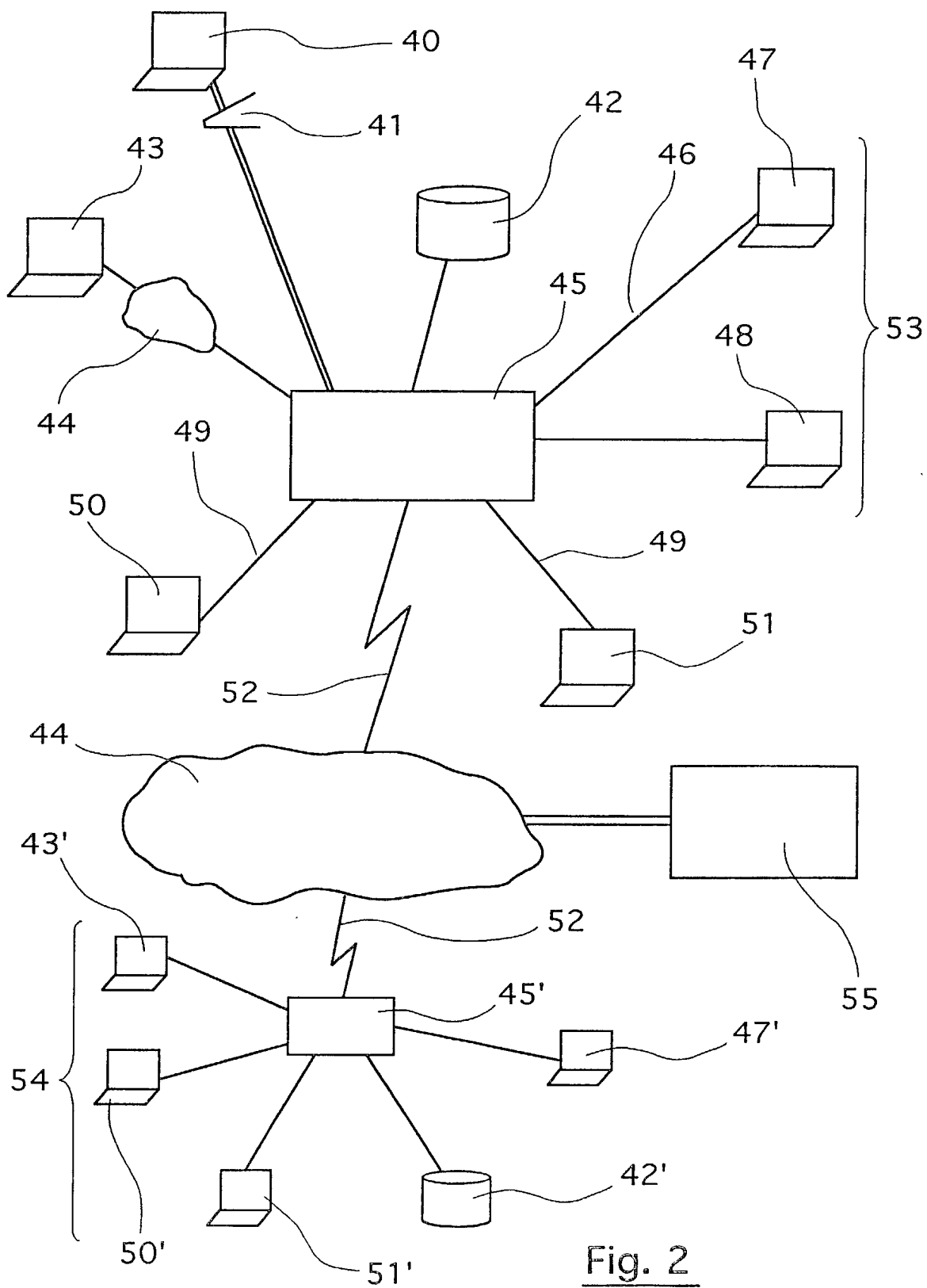


Fig. 1b





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I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

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Inventor Harry GOZLAN

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In the patent application:

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I appoint the attorneys and agents associated with Customer Number 00164 to prosecute the patent application identified above and to transact all business in the Patent and Trademark Office connected therewith, including full power of association, substitution and revocation.

I ratify all prior actions taken by Kinney & Lange, P.A. or the attorneys and agents mentioned above in connection with the prosecution of the above-mentioned patent application.

I authorize Kinney & Lange, P.A. to mark the appropriate space above and to insert the filing date and application number of the application, as appropriate.

I authorize the attorneys and agents named herein to accept and follow instructions from CABINET PATRICE VIDON as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the attorneys and agents and the undersigned. In the event of a change in the persons from whom instructions may be taken, the attorneys and agents named herein will be so notified by the undersigned.

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SMART TRADE TECHNOLOGIES

Signature: \_\_\_\_\_

Dated: \_\_\_\_\_

18 Feb 2002

Printed Name: \_\_\_\_\_

HARRY GOZLAN

Title: \_\_\_\_\_

Chief Executive Officer